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Wage Incentive Systems

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The need for increased production due to urgent war-time requirements and the desire due to manpower competition to pay some additional sum to good workmen has led to a greater deal of interest and research into wage incentive methods. With wages "pegged" under National Security Regulations, it is the only method by which wages can be increased, as any bonus system in operation in the past can be continued under a concession granted by the Regulations.

The chief drawback to the daily or weekly time rate is the fact that all operatives must be paid the same wage, irrespective of efficiency or experience. This results in the fast worker setting his pace to that of the slower men, since no incentive is given to provide increased output or even to work up to his normal capacity. Despite the preaching of the reformers, there must be differing levels in all walks of life, and the efficient worker in industry is entitled to earn the reward due to his skill and effort. Probably it would be harder to find a more tragic economic waste to-day than the keen men who are deliberately restricting their output because of accusations of "pace making" by slower workmates, who are most fearful of being shown to disadvantage by the greater performance of faster workmen.

Broadly speaking there are two principal methods in common use in industry. The first is the "task" method, which requires a specified output from each man, each machine, or each team. The usual daily hours of working are observed, and if the task set is achieved in this time, payment is made at an increased rate. The ideal under this method is to secure the workman's consent to a rate which will keep him busily occupied during the whole day, occupying every minute and utilising every device supplied by management in order to make the best use of his time. "Task" rates are suitable in a very highly organized establishment with efficient shop methods, such as a production line or manufacturing cycle. The other general class in the field of incentive systems is to pay an hourly or daily rate according to the Industrial Award, together with a bonus or incentive to the worker to induce him to increase his production. Unlike the "task" rate, this system does not require the performance of a fixed "task," but rather encourages any increase over and above the "fair day's work" provided under day rates. In other words, there is a small bonus for a small increase, and a larger bonus for a greater degree of output, and so on.

Widely Known Systems.

Although in this paper I intend to deal more with the practical application of incentive systems, their effect on costs, and problems of their installation, the subject nevertheless would not be complete without some reference to the most widely known and world-famous of bonus systems. Perhaps the most famous is the Gantt Bonus Plan, introduced by its author into the Bethlehem Steel Works, U.S.A., in conjunction with Dr. F. W. Taylor, who

was the "father" of time study. The Gantt system, like most of those in use, initially guaranteed the worker a minimum daily wage which, however, could be increased by doing a job in a standard time carefully selected after scientific investigation of methods and procedure. Although 20% and over may be payable for completing the task in standard time, a further bonus is possible if standard is bettered, and this is based on the time saved compared with standard time. In addition, the plan provided for a bonus to the foreman if the men under him participated in the bonuses earned. One of its features was the issuing of written instructions as to the method of performing the set task and the standard time for its completion.

The Halsey system sets a standard time, which is based on the best observed performance of men engaged on day rates. When, under bonus incentive, this time is improved, the system provides for payment to the workman of one-third of the time saved calculated at the man's usual hourly rate. Criticism has been levelled at this system on the ground that, since the standard is based on the "best" observed time rather than a scientific study of the job, there is a likelihood of revisions being needed in the rates set because subsequent performance proves this time to be, perhaps, ridiculously high compared with the low times recorded under the incentive that has been set. Such a state of affairs will only lead to dissatisfaction, especially if the employer resorts to rate cutting.

Main Principles.

There are many characteristics of incentive systems which are important in order to secure their success. For instance, any system should be simple and easily understood. It should be quite apparent to the most simple operative that he is required to carry out a certain task in order to secure an increased reward or portion of it in the case of a partial achievement. Secondly, the increase in earnings should be such a sum as will preserve the relative worth of the workmen and their supervisors. I wish to make it perfectly clear with the above remark, that I do not believe in the principle of restricting earnings for the sake of "keeping men down," or any such ridiculous practice sometimes observed in these matters. What I do mean is that a state of affairs by which an operative is allowed to increase his earnings from, say, £6 per week to £15 per week, while his foreman is paid a fixed salary of say, £8, and other executives accordingly, is not right, and reveals some glaring error in rate setting, which is likely to cause great dissatisfaction with the supervisors and others. Naturally this matter is difficult to discuss without actual examples, and it may even be proved that the wage paid was truly earned by the exceptional skill, enterprise and tireless energy of the man concerned, but, generally speaking, the increase would not be justified in an average worker, and would indicate a very poor result under day rates.

The main principle, however, in bonus setting, to my mind, is to secure a rate which is definitely possible of achievement and which presents some measure of appeal to those to whom it is presented. Just how this prime purpose is achieved is a matter involving great skill and a very complete knowledge of the trade on the part of the executive concerned. It is not sufficient to set a rate as humanly high as possible. Such a course is inviting failure immediately for the simple reason that men refuse to be victimized. It is very difficult to put into words some guide as to the right course of action under these circumstances, but, in practice, whenever discussing rate setting, I usually put the rate to a test by a question to the first-line supervisor of the men to be rated: "As the foreman in charge of these men, can you yourself achieve this figure under the conditions of working by a steady effort and use of all the skill you are possessed?"

Even such a test as this is not entirely satisfactory, but the question will illustrate the principle involved; that is, that the bonus must be capable of achievement under normal conditions, must never reach the "heart-breaking" stage, and must contain some element which will appeal to the workmen and enable them to strive naturally and reasonably after the goal which has been set.

Time and Motion Study.

Fortunately, there is machinery available which should, if properly used, place the basis of assessment beyond guesswork. I refer to the science of time and motion study by which the operations of the worker are studied, recorded and timed with a view to complete analysis of the job under review. A complete review of the value of time study is not possible in this short article, but a little can be said to illustrate the value to management in setting task and bonus rates.

Without attempting to be exhaustive, I would like to list the most important differences between a day's work under day rates and the results possible when all factors have been investigated and remedies applied.

Factor.	Day Rates.	Bonus Conditions.	Achieved by:
Pay	A minimum is assured.	The minimum becomes a poor reward compared with the possible.	Opportunity for extra earnings.
Skill	Almost unrewarded.	A vital factor.	The best worker wins.
Rest and Stop Periods .	Regarded as a right.	Minimum only is taken.	Payment for results.
Motions in Work . . .	May be many unnecessary.	All motions reviewed.	Time and motion study.
Tools and Plant . .	Use those provided.	Tooling is vital and will be reviewed.	Jigs and fittings.
Working Conditions . .	Usually only legal requirements operating.	Essential that conditions be good.	Lighting, bench locations, good seating and factory conditions.

A careful study of this schedule will reveal the opportunities which should exist for a keen and intelligent time study man to assist his superiors in the difficult matter of working out bonus conditions and rates. Probably his most important contribution will be in the field of motion study. All the unnecessary and overlapping operations which tend to waste time and extend the minutes worked can be deleted. Benches, seating and tools can be arranged so that reaching and stretching can be overcome. Advice on tooling, consultation with the foremen on jigs and other appliances to assist with the job are part of the review, and all these factors are vital in the preliminary preparation for the work.

With regard to the actual bonus setting: this provides the study operator with a problem which usually resolves itself into a series of calculations after all the above conditions have been remedied. In order to understand how the time study man is in the position to advise on this matter, let me, for the sake of those who are not familiar with them, recount two of the

axioms of time study which provide the means of determining the required figures. The first axiom of time study is that the operator must secure the co-operation and confidence of the workman being studied. He should explain to the operative the full reason why a study is being made, and purposely ask for an average day's work—not slower than usual nor faster. The second axiom of time study concerns the psychology of the average day's work. This has been summed up as follows: That no matter how much an operative is seeking to slow down his work when being studied, the fact will show up in his day's assessment, for the simple reason that, if the study is carried on for a sufficient period, the operations being studied over and over again will reveal one good result. It is perfectly obvious that he cannot deliberately "loaf" under the study man's scrutiny, and also that he is likely as not to forget to slow up the same operation all day long. A few moments' thought will illustrate what is meant by this statement, which may be illustrated by an example:

Test No...	1	2	3	4	5	6	7	8	9	10
Motion 1 ..	2 sec.	2 s.	2 s.	1.5 s.	1 s.	2 s.	3 s.	2.5 s.	1.5 s.	2 s.
Motion 2 ..	10 „	12 „	9 „	8 „	12 „	5 „	8 „	9 „	10 „	4 „
Motion 3 ..	18 „	17 „	14 „	19 „	15 „	14 „	12 „	18 „	15 „	15 „

and so on.

It will thus be seen that without being asked to make any special effort, and working entirely under free conditions, motion 1 *has* been done in 1½ seconds, number 2 in 4 seconds, and number 3 in 12 seconds. If these three motions constituted a job, it may be reasonable to ask the operative to do the job in 17½ seconds, plus an allowance (say 20%) for fatigue, rest periods, etc., and pay a bonus rate if these times are achieved. Of course, the conditions of working, skill of the operative, state of the material, etc., all enter into this assessment according to the rules of time study.

Team Bonus.

In cases where it is simply impossible to set a bonus rate on every factory operation, a substitute is to test the efficiency of the factory as a whole, or, on the other hand, of a working team, and pay a bonus accordingly. Some ingenious methods have been worked out along these lines. Of course, in the case of a section or department making one line, this can be simply calculated on the number produced. If the number set is reached, the whole team (sometimes including the foreman) receive a higher payment, possibly on a sliding scale according to the conditions set by the management.

To set up the machinery needed to assess the efficiency of the factory as a whole is a little more difficult. The problem is much nearer solution if a system of standard costs is in operation, for then each operation, process and job will have a standard time so that, if men are moved from one to another, the allowance in so far as cost is concerned, is the same. Thus is evolved the familiar "points" system by which the actual minutes (or points) worked in the whole factory are checked against the actual points allowed for each completely produced operation. It is not necessary for the articles being made to be finished. A time has been set for each operation, so that each man's work-ticket stands as a whole, and his efficiency can be assessed on his day's production. Foremen can be advised of the "loss" jobs for the day—that is those which have exceeded the standard set—and profits and losses in departments can be calculated (for labour) by simply multiplying the difference in minutes between standard and actual times in that department by the award rate per minute.

A good plan is to offer to pay to the men either the whole or a large percentage of the time saved on standard. This is reasonable if the standard costs have been used to compile selling prices, and also if the standards for labour have been based on the "fair day's work" rating rather than the task rate required following on a time study. There is thus created a margin which allows for increased efficiency and payment of the time saved (less a margin for faulty work, etc.) is warranted.

Many Advantages.

A system such as this has many advantages. It allows the factory management to switch its labour available into any job, knowing that the standard has been set and will be unchanged despite the men employed. It will result in a considerable saving in clerical effort and since in a repetitive manufacture involving very many lines, it is impossible to time study all, this system provides a ready scheme to secure and pay for increased efficiency. Its critics point to the fact that workmen who do not care to attempt the higher rates will penalize those who have made a determined attempt. The answer, of course, is that each man's record still stands individually and can be judged accordingly. It is not suggested that all share equally in the bonus for time saved. The total is usually published for general information, but the allocation of individual rewards is a matter for management to decide in its own discretion. Many firms go much further than the actual results of efficiency as shown under a "points" system, and have installed a proper rating scheme by which bonuses are allotted for such headings as punctuality, skill, care of equipment, attitude towards the work, aptitude, etc., as well as straight-out bonus earnings. This, of course, is the ideal, and, if operated by supervisors who have been trained in making a correct judgment, will be the answer to any criticism of this system.

Effect on Costs.

From the angle of the accountant, a suggested bonus scheme must be reviewed from the aspect of its effect upon costs. This is very important, particularly as the rate once in operation cannot easily be altered. The ideal scheme is probably that which agrees to pay either the whole or the major proportion of savings. In this case, the accountant is hardly interested, for it is obvious that he is certain to be protected if the standard time is being charged in the sales price. A different problem arises where a sliding scale is fixed according to output, and it is then the responsibility of the accountant to determine the difference between the quoted or sale price as far as labour is concerned and the true cost of the time taken. It will be agreed that it is not incorrect for an unfavourable variation to be shown in these figures because this may be more than offset by the added absorption of expense by the greater output produced. In other words, in a set of cost accounts, an unfavourable variation in labour may be shown due to increased payments for bonus work, but there should be a much greater favourable variation in the overhead section. It is the task of the accountant to preserve this balance, otherwise the bonus system is not achieving its purpose. Care should be taken to exclude from the labour totals all costs appertaining to holiday and sick pay, excess premium for overtime and indirect labour, as the inclusion of these items will make it almost impossible to determine the effect of bonuses on the costs. If a bonus is paid to foremen, for instance, it might be a good idea to add this sum to the cost of indirect labour in order to keep the factory total of direct labour correct.

The Valuation of Stock-in-Trade in Balance Sheets

By Frank L. Horn

(*Continued from last month*)

Cost of "Work-in-progress"

The same principles apply to the valuation of work-in-progress as to finished goods.

However, care must be taken not to "recover" too high a ratio of "oncost" in unfinished work. Where no distinction is made between "operating" and "general factory oncost," only such work-in-progress that has almost reached the finishing stage may be charged with a proportion of this burden. Where "operating oncost" is added separately, only such charges as relate to completed stages of manufacture should be applied to the work-in-progress. Often, in process costing, the rate of time of actual production compared with the estimated total time will afford a basis for the determination of the burden that may be added. Where the job is liable to a high percentage of "rejects" or where the eventual outcome of the manufacturing process is uncertain for lack of experience or other causes, it is better to value such work-in-progress only on a "prime cost" basis.

Cost of Farm and Mining Produce in the Hands of the Original Producers

Our original definition of cost did not provide for stock-in-trade which had neither been acquired by way of purchase or barter, nor been made by means of a manufacturing process. It is remarkable that in practically all the learned and many-worded dissertations about the valuation of inventories little heed is paid to the valuation of farm and mining produce in the hands of the original producers.

This is doubtless due to the fact that the "cost of primary production," while admittedly interesting for general economic reasons, is hardly a matter of accountancy if we understand this term as the recording of facts pertaining to the *annual* changes of capital invested in an undertaking. Farming activity is "costable" only over a long period of years when it is possible to strike an average between "good" and "bad" seasons. A mining business requires for cost-finding purposes the ascertainment of the "capital wastage" due to the depletion of the deposits from which the products sold are extracted. This, clearly, can be done only on a speculative basis, dependent not only on the actual size of the deposits but also upon the determination of the point where extraction owing to the increasing cost becomes unprofitable.

These facts are recognised in company and taxation legislation, in so far as a mining company is allowed to ignore the distinction of profits and recovered capital investment, and a farming concern may average its earnings for taxation purposes over a period of years. In farming (we use this term for all classes of agricultural, pastoral and related activities), the most important "inventory" item is livestock. For this class, Australian taxation legislation prescribes a special method of valuation, resembling in principle the "base stock" method mentioned before. There is no reason why any deviation from this method should be made for accountancy purposes. As to other produce, it is not the custom of this country to accumulate stocks in the hands of primary producers. Therefore the question of valuation is of minor importance. Farming produce on hand at balancing date can be safely valued at ruling selling value (less cost of selling) or even where books are kept strictly on a cash basis, ignored altogether. Unharvested crops—corresponding to work-in-progress of a factory—should always be ignored. If this practice is followed consistently through the years, the results will not be affected.

Regarding mining produce, the uncertainty of the "life" of a mine makes

it hardly possible to find the proper costs. But where mining is carried on under a lease agreement, costing can be done in the same way as the costing of manufactured goods. Fortunately, here again it may be said that in this kind of industry the holding of stocks is generally insignificant in comparison with the values of other assets, and there is no need for involved calculations of costs. The selling price less estimated costs of selling and distribution will afford a sufficient basis for valuation, unless some sort of uniform basic value for all stocks held is chosen. We shall give later an example showing how American mining concerns value their stocks which will illustrate the various possibilities.

This concludes our survey of the problem of "cost price" for the purpose of inventory valuation. It does by no means exhaust all the possibilities that arise in practice, but we hope to have given a picture of the guiding principles which will help the businessmen who are faced with these problems. In the following, we have to determine what is meant by the term "replacement" used in the "Golden Rule." Whereas cost price can be considered as a more or less precise term which therefore requires long and varied comment to meet all possible cases, the term "replacement" can be dealt with in a much shorter way, as is often the case with vaguer expressions which leave the door open for the application of common sense.

"Replacement" or "Market"

These two terms are used almost indifferently by the writers. A third expression, "reproduction," is introduced sometimes to describe the alternative valuation of manufactured goods. For trading goods, we find a good definition in the U.S.A. Treasury Regulations:[7a]

"Under normal circumstances and for normal goods, in an inventory, market means the current bid price prevailing at the date of inventory for the particular merchandise in the volume in which it is usually purchased by the taxpayer."

The reference to "volume" is evidently a short cut for saying (as other authors do) "in the same market" (i.e., the wholesale market or direct from the manufacturers, etc.) and "at the same price scale and with the same trade discount which the purchaser usually obtains."

It has to be remarked that as we are dealing with a comparison of two prices they must be brought to the same level. That is to say, any expenses which we have added to the cost price must be equally added (at current rates) to the replacement price. It can happen that the replacement price is lower not because the vendors are ready to sell at lower prices but merely because incidental expenses are lower; for instance, when freight rates or customs duties have decreased.

In practice, the ascertainment of the replacement price might be difficult or undesirable. Many a trader is reluctant to approach his supplier with a query for "present" prices for the purpose of stocktaking only, as some markets are so sensitive that even a single enquiry by an important consumer may send prices up. Even the addition of "for stocktaking purposes only" may not always eradicate that impression, as it may be taken as a legitimate "ruse de guerre" in the struggle between seller and buyer. Other traders may be unwilling to prejudice the goodwill of their suppliers, upon whom they are dependent, by compelling them to undertake difficult costing calculations for a mere book-keeping entry. Further, such an enquiry might not yield the actual price at which goods can be bought, as bargaining is still part and parcel of business activities. Even spontaneous offers received round about inventory time cannot be taken as a proper basis, as it might be possible and even expected by the offerer that the price is beaten down

7a. U.S. Treasury Regulations 77/104.

before actual business is done. In all such cases a general survey of the market will often help. If between the last purchase and the date of inventory nothing has occurred which leads to the impression that prices have gone down, the "replacement" price will be equal to the cost price. In many cases, the development of the selling price will provide a help. If it has remained stable, there is usually no reason to assume that buying prices have changed. Where it has increased, the question of replacement prices becomes uninteresting for our purposes, as we are only concerned with cases where it is lower than the purchase price.

In other cases, the ascertainment of the replacement price is simpler. This applies particularly to industries where regular official price lists are issued. The question has been put whether, where a new price-list at lower rates comes in force as from July 1, the inventory being valued as at June 30, the new price list may or should be taken as basis for the inventory valuation. In our opinion the answer is definitely "Yes," as we have accepted as a basic principle that forseeable losses should be provided for.

Where a replacement price is unobtainable, the current selling price less margin applicable to that class of goods should be taken. Selling price has to be reduced to its net value by deducting all directly attributable distribution expenses (like sales commission and shipping charges), and "margin" means the gross profit after elimination of the items corresponding to those used for reducing actual selling price to net selling price; or, with other words, general selling and administrative overhead burden plus net profit rate.

"Replacement" Price of Manufactured Goods

R. C. Montgomery defines "market price" as the lower of reproduction or replacement price and net realisable value. In most cases, manufactured goods will have to be valued at "reproduction" cost, i.e., the estimated cost of making the same kind of goods at the time of stocktaking. Where no essential changes in production methods have taken place, this cost can be easily ascertained by adjusting the original cost schedule to present raw material and labour prices. But where the efficiency of a factory has been increased through the installation of improved machinery or by the application of better methods, a valuation on the basis of the new state of affairs must be made.

Sometimes it is found that a manufacturer may be able to buy the same class of goods he has been making from another source below his own cost. In that case he must, of course, apply the "replacement" price in lieu of the reproduction price.

In the case of left-overs or obsolete stock, or where a general slump has set in in that particular industry, the net selling price (i.e., the actual selling price less cost of selling and distribution) may be lower than the original cost price or the present reproduction price. In that case the choice must fall on the net realisable value.

We must remind our readers that we are at present merely contemplating the application of the "Golden Rule." We are not yet concerned with the advisability of applying it or to look for another basis of valuation. It is sufficient, therefore, to state here that where stocks held at inventory date have been sold at fixed prices above original cost price, it is not necessary to go to the trouble of ascertaining the "market" price, in the sense of our above explanation.

Application of the "Golden Rule"

Having sketched the principles and conventions involved in the ascertainment of the "cost or market" prices of the inventory, it remains to apply the rule. This simply means the choosing of the lowest value as the "inventory price." There are three possible methods:

(1) Selection of the lowest value for each item of inventory, separately.
(2) Ascertainment of the "cost" value and of the "market" value of the complete inventory and selection of the lowest total.
(3) Grouping the inventory and selection of the lower of "cost" or "market" total of each group of goods.

No general recommendation can be made as to which method is preferable. Pure theory would, of course, prescribe individual valuation of each item. But no objection can be raised if the management decides to adopt either of the two alternative methods.

Our consideration of the "Golden Rule" would not be complete without mentioning a rule set out by De Paula[8] for the valuation of the inventory of a manufacturer.

In respect to raw materials and stores, he allows a valuation at cost (even though market be lower) if the price of the finished goods in that particular industry is static, be it because of inelastic price structure, be it because the manufacturer has firm orders on hand based on the actual cost price and unaffected by a subsequent reduction of prices of the raw materials concerned.

In respect of finished goods, he says that the "lower of current standard cost and net realisable value" should be taken. "Current standard cost" is practically identical with reproduction cost. Net realisable value is defined as the selling price less cost of selling. This rule means that De Paula allows, in this instance, an exception to the "Golden Rule" by ignoring the "actual cost" of the goods. Any saving of cost of production compared with current standard cost is, therefore, a gain on the operation of "making" and may be credited to the year's accounts. This theory has certainly a great deal to commend itself, particularly as it is a convenient and sensible way of assessing a large factory inventory for which individual identification of lots with manufacturing processes would necessitate a great deal of record-keeping and calculations.

As regards farm and mining produce in the hands of the original producers, we have already indicated a way of valuation when discussing the cost of these products. In the following, we give an extract of a balance sheet of an American mining concern which, apart from the extent to which information is imparted to the readers of the accounts, will demonstrate how a flexible application of principles, set out clearly on the face of the balance sheet, will satisfy not only the theory but also what is more important the parties concerned. The extract is made from the balance sheet of the Cerro De Pasco Copper Corporation[9] as at December 31, 1936:

Metals sold for future delivery, at net selling price .. .. (At costs exclusive of depletion: $2,041,000).	$3,255,711
Inventories of unsold metals (see Note 2)	2,528,597
Inventories of ores, concentrates, etc. (at costs exclus. of depletion)	501,734
Note 2	
Domestic copper at $·05 per lb. at which written-down value it was included in Dec. 31, 1935, published balance sheet (Valuation at market quotation $4,105,699).	$1,743,396
Silver and gold at market quotation at Dec. 31, 1936 .. .. (At costs exclus. depletion: $349,223).	490,687
Miscellaneous metals (at costs exclus. depletion)	294,514
	$2,528,597

8. See note No. 1.

9. As quoted by John L. Harvey in "Some Observations on Accountancy Practice with Special Reference to Inventory Valuation" in the December, 1937, issue of the *Journal of Accountancy*, fol. 440.

This presentation of the inventory account may well be studied by Australian executives. The company obviously applies a modification of the "base stock" method to their main product (copper), as far as it is unsold. Credit is taken for the profit of all metals definitely sold. Silver and gold, because of their ready saleability, are valued at market price. Unsold by-products and work-in-progress ores, concentrates) are shown at cost. Additional information is provided for all main items by giving the cost value wherever required, and in the case of copper, the market valuation. Costs do not include any allowance for depletion, i.e., the diminution of the capital value of the mines, presumably because of the difficulty of assessing the "life" of the mines.

"The Golden Rule" and other Principles of Valuation

Valuation of inventory at the lower of cost or market is by no means the only method recommended by the accountancy profession. There are a number of other theories at large, most of them argued with considerable vehemence and quite a good deal of good sense.

We have already seen that the "golden rule" is itself not applicable at each and every case, and we have mentioned in passing a few methods which, strictly speaking, cannot be classified as variations of the "golden rule." For instance, the "last-in-first-out" method and the "base stock" method ignore largely the market value, but by professing to set the "starting price" as low as reasonably practicable they attempt to comply with the basic principle. On the other hand, we have seen that in certain cases a valuation at net selling price is admissible whereby the question is left open whether the ratio deducted from actual selling price should or should not contain a margin for profit.

However, there is quite an important school of thought[10] which contends that "cost" and cost only is the proper foundation for the valuation of the inventory. There also exists a smaller group[11] who postulate that "market" and market value only should be chosen for the purpose. Wherever market price exceeds the cost price, the difference is to be placed into a suspense account so as to avoid any inclusion of "unearned profits" in the disclosed net earnings. Occasionally even a valuation on the basis of "selling price less gross profit margin" is advocated,[12] and the interesting argument brought forward in support that any difference between the value so found and the actual cost represents a "loss or profit on buying" (as distinguished from a loss or profit on selling). This "loss or profit on buying" must, say the supporters of this theory, be taken into account for the income-statement of the period closed by the balance sheet. While rarely found in modern writing, this idea seems to have been approved by British law courts and merits further investigation.

The question which is the correct basic principle for inventory valuation can be answered only if first of all a definite reply is found to the problem, "What is the purpose of a balance sheet?" About this point, the exponents

10. E.g., Paul-Joseph Esquerré in *The Applied Theory of Accounting*, 1915, fol. 171: "The inventory of a trading concern should be valued at cost. It has been held that it is proper to compute it on the basis of the market value if such value is smaller than cost . . . . there is, however, a good reason why market values should not be used at all. Accounting is not interested in what would have happened 'if,' but in what has actually happened."
This so-called historical concept of the function of the balance sheet has lately not found many supporters in British and American literature. But it is recognised that "cost only" may have a great deal of justification for certain industries.—See Edward A. Kracke, "Inventories, Past, Present and Future," in the *Journal of Accountancy*, June, 1941, fol. 486, seq.
11. E.g., Kenneth MacNeal, C.P.A., *Truth in Accounting*, 1939.
12. L. R. Dicksee, *Auditing*, 12th ed., 1922, fol. 138.

of theories hold widely divergent views. There are actually seven different parties interested in balance sheets, viz.:

(a) the management
(b) the tax collector
(c) the owners
(d) prospective owners
(e) the creditors
(f) prospective creditors
(g) the statisticians and planners.

The answer to the problem is obviously primarily dependent upon the interests of the party for which the theoretician speaks, or which he considers as the most important ones. The "static" theory, first enunciated by Count Savary in 1675, stresses mainly the point of view of the creditors by demanding a disclosure of the asset and liability position of the concern. The "dynamic" theory (founded by Schmalenbach) speaks primarily for the owners, who themselves have a twofold interest in a balance sheet, viz., they demand an account of stewardship of the management and further require information as to the amount available for withdrawal as profit. From these two basic conceptions of the function of a balance sheet have sprung a number of variants which would be too long to consider here.

The question has been complicated further by the new element introduced into accounting by the work of American theoreticians, mainly A. Hamilton Church, Clinton S. Scovell and J. M. Clark, who have developed the idea of pre-determined or standard costs and have thus succeeded in eliminating the "idle" cost from the operating expenses. This involves the problem of disposing of this class of cost of the inventory.

But one point we think we should make here. Whatever notion one adopts in respect of the purpose, function and meaning of a balance sheet, one must never lose sight of the practical issue involved. This issue, in our opinion, can be resolved in the simple statement that the utility of a balance sheet is directly dependent upon its comparability. That is to say, under whichever school of thought one considers the matter, an isolated balance sheet can yield little or no information. The novice might think it already a nice achievement if he can read from a balance sheet the net capital accretion earned during a year, and the ratio of the various classes of assets on the one hand and the invested capital on the other. But the wary expert will rightly distrust any such isolated information, for reasons into which we need not go here. The more material for comparison he can get hold of, the better will he be satisfied. This comparability must be in two dimensions—in time, i.e. with balance sheets of earlier periods of the same undertaking, and, in space, i.e. with the results of similar undertakings within the same period.

Comparability implies equal basis. This does not mean that the basis must be uniform, but only that it must be capable of being reduced to a common denominator. The task of accountancy research as a practical science is not to find an answer to fundamental questions. This must be left to the "sciencia pura" of economics, for not only is it quite possible that these questions cannot ultimately be reduced to scientific axiomata but must remain "matters of opinion," but even if there would be achieved a common agreement there would still be the practical side to be contended with, in order to enforce an adoption of the results agreed upon. The task of accountancy research is to create conditions of comparability by a clarification and definition of terms. In the foregoing, an attempt is made to circumscribe for instance the notion of "cost price" for inventory purposes. If these suggestions or any other possibly better ones were generally accepted, anyone

seeing an inventory valued at cost price could safely compare and draw conclusions.

To illustrate, let us assume that we are dealing with two concerns of exactly the same structure and dealing in the same class of goods. Only Concern "A" includes in his "cost price" not only the purchase price but also interest on capital, and storage and overhead expenses to date, whereas "B" shows the stock at the naked purchase price. This means that "A" has increased his profit by taking credit for all expenses mentioned. The other concern has not done so. Therefore, any conclusion we might draw as to the "efficiency" of the two concerns must be wrong. Everything else being equal, Concern "A" would show a higher profit, but that would not prove that it was luckier in its speculations or better managed or situated.

On the other hand, it is clear that even if both concerns adopted the same rules of valuation, the information we could gather from their balance sheets would still be incomplete. For we are not told anything about the quantities represented by their inventories, and we therefore cannot draw any conclusions as to the "earning potential" hidden in this balance sheet item. This simply is an information to which modern accounting conventions do not entitle us. But they definitely entitle us to a conclusion about the relative efficiency of comparable undertakings. Further, if the "lower of cost or market" rule is used we are entitled to suppose that the bulk of the inventory will, when sold, and providing the market does not undergo any considerable change by that time, yield at least the normal rate of gross profit earned in that particular industry.

Another set of conclusions we may draw is based upon the distribution of the net capital among the various classes of assets. Reverting to our former example, we would find, upon analysis and knowledge of the method used, that while the capital of Concern "A" is higher, this surplus on a percentage basis is spread over all classes of assets and distorts the comparable picture. To illustrate, let us assume that the balance sheets of the two concerns are as follows:

(In 1,000 pounds)	1st Concern (A)		2nd Concern (B)	
Fixed Assets	50	62·5%	50	66·66%
Debtors	10	12.5%	10	13·33%
Cash, etc.	5	6·25%	5	6·66%
Inventory (at cost)	15	18·75%	10	13·33%
Capital incl. accum. surplus .	80	100%	75	100%

Not only has Concern "A," prima facie, £5,000 more divisible profits, but also anything we might be tempted to say about the distribution of capital would be wrong. A statement that "B" has invested 4·16% more of its capital in fixed assets than "A" is simply not borne out by the facts, for we have assumed that the position of the two firms is equal, and the difference is merely due to the different principles used in valuing the inventory. As we have said that both concerns value at "cost," their explanatory notes would also not yield any information to set us on our guard.

This is a good illustration for the importance of settling the terms of accounting.

By and large, the writers of accountancy agree that the "lower of cost or market" principle is the most convenient and proper way of inventory valuation. The "last-in-first-out" and "base stock" methods have found many opponents. But in their respect, there is also general agreement, that they can be used only where an industry, as a whole, agrees to adopt one of these methods and prescribes the details of application (as has been done in the American petrol industry). A drawback of these methods is the fact

that their adoption would presumably involve the establishment of a "taxation balance sheet" as distinguished from the published balance sheet, as the taxation authorities do not feel inclined to accept inventory valuation on any of these bases.

The Requirements of the Australian Income Tax Legislation

The Commonwealth Income Tax Assessment Act, 1936, lays down in section 31:

"The value of each article of trading stock (not being livestock) to be taken into account at the end of the year of income shall be, at the option of the taxpayer, its cost price or market selling value, or the price at which it can be replaced."

This refers not only to trading goods, in our sense, but also to unsold manufactured goods. The taxpayer is given a wide choice, and it has been laid down that he may apply any of the three criteria of valuation to each item specifically or to groups or the total of the stock, collectively. While it is extremely doubtful whether a "last-in-first-out" or "base stock" method would be approved—and the attitude of the American taxation authorities lends colour to the belief that it would not, a valuation at "selling value less margin" would probably not be objected to, as it would keep, in the great majority of cases, the value at or above cost level.

It is remarkable that this section of the taxation act has not lead to any litigation or disputes of importance as similar provisions have done, on the continent and in U.S.A. Many small entrepreneurs think themselves extremely clever in valuing their stock at rock-bottom prices and thus reducing their taxable profit for the year, but this is evidently a very short-sighted policy, which might cost dearly in the long run. Quite apart from the fact that such a secret reserve must come to light when the business is sold, the point will be soon reached where the inventory cannot bear any further reduction and the taxable profit must thus be inflated compared with the actual profit in order to equalise the position. As no one can foresee the future, this might well happen at a time when tax rates are particularly high, and thus the gain made by "deferring" the profit for some years might well be upset by the higher rate applicable to the dissolved "secret reserve." As tax rates are graduated to the size of income and thus can be borne best by that particular income—quite apart from the illegality of such procedure—accountants should always advise their clients not to attempt any "manipulation" by under-estimating their inventories.

Conclusion

We have now reached the end of our necessarily brief survey of the problem of inventory valuation for balance sheet purposes, particularly in the light of the "lower of cost or market" principle. We have tried to demonstrate the importance of arriving at an understanding as to the meaning of the various terms. Cost price we have found should include all normal and directly attributable cost of buying whereby a manufacturer might also include part of his manufacturing overhead. Replacement price should be established on the same basis as cost price. Where the market price is not available, the selling price will provide a guide for the valuation. In all cases, a firm grasp of the basic principles and the use of good old-fashioned commonsense will help the accountant to meet special circumstances. Accountancy research has so far only touched the fringe of the problem. Much useful work in this respect is being done in the U.S.A. and we may hope that one day a standard work of accountancy terms will appear which will provide the professional and commercial accountants with proper sharp tools, armed with which they may take their rightful place in the economic world, as reporters of the past and intelligent assistants of the builders of the future.

C

Taxation Section

Edited by J. A. L. GUNN, F.I.C.A.

INTEREST PAYABLE ONLY OUT OF NET ANNUAL INCOME—WHETHER INTEREST ACCRUED DEDUCTIBLE IN THE EVENT OF A NET LOSS.

The appellant claimed a deduction of £13,333/13/6 in its assessment of Federal income tax for the financial year 1940-1941 representing interest at 5% p.a. on £266,673 irredeemable debenture stock for the relevant year of income, viz., the year ended 31st December, 1939. Under the trust deed governing the issue of debenture stock, interest was "to be a charge upon and payable only out of the net annual income of the Company . . . subject to the prior charge thereon of the interest upon the 4½% stock"; it was to be payable half-yearly and, after 31st December, 1933, was to be cumulative. In the event of the trustees exercising powers under the deed to sell or enter into possession, the proceeds of realization were to be applied towards the payment of the amounts due to stock-holders including all arrears of interest.

The Profit and Loss Account furnished with the company's income tax return for 1939 showed a net loss of £63 without charging the interest in question. After adjustment, of which details were not given, this was converted into a taxable income of £6,675.

It was contended for the appellant that though not paid or credited to the trustees or the stock-holders during the year in question, the interest had become payable so that the liability to pay it had accrued, and therefore it was an "outgoing incurred" within the meaning of s. 51 of the Income Tax Assessment Act.

For the respondent Commissioner it was argued:—

(i) that there had been no net income of the company in any year since the deed was executed: hence no obligation to pay interest had arisen;

(ii) even if interest did become payable it was not in fact paid, and therefore could not be regarded as an outgoing incurred within the meaning of s. 51;

(iii) that the payment of interest out of the net income would be a distribution of that income and not an outgoing incurred in producing it.

Held (Latham, C.J., Starke and McTiernan, JJ.; Rich and Williams, JJ., dissenting): that the sum in question was not an allowable deduction, for in the absence of sufficient net income no liability to pay interest had arisen. Per Latham, C.J.: "all that can be said is that there exists at the present time the possibility of a liability accruing in the future."

In view of the above decision it was not necessary for the Court to consider the second and third contentions submitted on behalf of the Commissioner, but the third was briefly dealt with by Williams, J.

Following are extracts from the judgments: per Latham, C.J.: "What is important is the definite provision, applying to all the 5 per cent. interest, that the interest is payable 'only out of the net income of the Company.'

"As there has never been any such net income, the interest which the company claims is liable as a deduction did not become payable, has not become a debt, and may never become a debt. As the cumulative period has now been reached, it might become a debt (if the company should have net income hereafter), and in that case it could certainly, if it were paid, and possibly even if it were not paid, be a proper deduction from the income of the company for income tax purposes. The words 'outgoing incurred' should not be limited to expenditure actually made. They include a liability presently incurred and due though not yet discharged (*Jolly v. F.C. of T.*, 50 C.L.R. 131 at p. 137; *W. Nevill & Co. Ltd. v. F.C. of T.*, 56 C.L.R. 290) cases on a provision not quite identical with s. 51 of the present Act, but

which does not differ in any particular which is material for present purposes. It may be argued that the words include a liability which falls within the description *debitum in praesenti, solvendum in futuro*. But the alleged liability in the present case does not even answer this description. As things stand at the present the interest has not become payable, and all that can be said is that there exists at the present time the possibility of a liability accruing in the future, such possibility depending, not only upon the derivation of net income, but also upon the amount of such income derived. In my opinion such a possibility cannot be regarded as an outgoing incurred within the meaning of s. 51 of the Income Tax Assessment Act. Not only has no outgoing been made, but no liability to make an outgoing has come into existence."—per Starke, J.: "Finally it is said that the 5 per cent. stock and interest thereon, subject to a certain prior charge, is charged upon the capital assets of the appellant by way of floating charge, that is, upon the business, undertaking, property and assets of the taxpayer, including uncalled capital. This argument is, I think, correct; the charge is to secure both the principal and interest on the 5 per cent. stock, and it is a charge upon capital assets. But a charge upon the capital assets of the taxpayer does not result in an outgoing incurred in gaining or producing assessable income or in carrying on business for that purpose. The charge is a security but only a security in case of non-payment of the principal or in case interest is not provided in the manner contemplated and agreed upon by the parties to the trust deed."

(*The Emu Bay Railway Co. Ltd. v. F.C. of T.* (1944) 3 A.I.T.R. (not yet reported).)

PRIVATE COMPANY TAX.

Application and validity of ss. 104 *and* 105.

The appellant, which was a private company under the relevant Income Tax Assessment Acts, was assessed for additional tax upon its undistributed income of the years ended June 30, 1934 and 1939. The 1934 assessment was issued under s. 31B of the Income Tax Assessment Act 1922-1934. For 1939 two assessments were made. The first was made under s. 105 of the Income Tax Assessment Act 1936-1939 and amounted to £8/5/9. The second, described on the notice as an amended assessment, was made under s. 104 of the same act and amounted to £1,998/12/-. In arriving at the latter amount, credit was given for the sum of £8/5/9 paid under the previous assessment.

The appellant claimed that the three assessments were invalid upon the ground that no tax is imposed upon the company by the sections under which it was assessed, or by any other statutory provision, nor is there any authority requiring a company to pay any tax calculated by reference to rates applicable to individual persons. Also, in regard to 1939, it claimed that only s. 105 was applicable: if, however, ss. 104 and 105 were both applicable, the Commissioner must elect to assess under one or the other, and having first assessed under s. 105, he could not then assess under s. 104. It was further contended that the assessment under s. 104 was an amended assessment, the issue of which was prevented by s. 170 (3), which only authorizes an amendment of an assessment to correct an error in calculation or a mistake of fact, whereas here the Commissioner had made a mistake as to the law which was applicable.

Held (i) *per totam curiam,*

that the appellant was liable to pay the additional tax imposed under s. 31B on income of the year ended June 30, 1934, and under s. 104 on income of the year ended June 30, 1939;

(ii) *per totam curiam;*

that ss. 104 and 105 are cumulative and not alternative, and both may be applied to a private company in relation to the same income year. Their Honours, with the exception of Starke, J., therefore held that the appellant was liable to pay the additional tax imposed under s. 105 on income of the year ended June 30, 1939. Starke, J., found it unnecessary to decide this point because the Commissioner did not seek to recover the tax levied under s. 105, but deducted it in the s. 104 assessment;

(iii) *per totam curiam;*

that the assessment under s. 104 was not an amendment of the assessment under s. 105, but a separate assessment authorised by s. 169, and s. 170 (3) had no application.

Williams, J., stated that following the limitation of the rebate under s. 46 to shareholders which are resident companies, s. 105 may work a grave injustice where tax is also assessed under s. 104, and urgently requires reconsideration and amendment to bring it into conformity with the existing act. This suggestion was supported by Rich, J., (*Cadbury-Fry-Pascall Pty. Ltd. v. F. C. of T.* (1944) 3 A.I.T.R. (not yet reported).)

Deductions for Deferred Maintenance.

The Deputy Commissioner of Taxation, Melbourne (Mr. R. W. Chenoweth), has advised that forms are now available at the Taxation Offices, 436 Lonsdale Street, and London Stores Building, Elizabeth Street, Melbourne, for use by taxpayers who desire to claim a deduction for income tax purposes in respect of deferred maintenance. It is understood that forms are also obtainable at the offices of the Taxation Departments in the other States.

The application, accompanied by the necessary cash deposit, must be lodged before June 30, 1945, except in the case of a taxpayer whose accounting period for income tax purposes does not end on June 30, when the application must be lodged prior to the closing date of his accounting period. Commonwealth Bonds are not acceptable in lieu of cash.

Full particulars of the new deductions were set out in the November, 1944, issue of this Journal.

Tax on Commonwealth Loan Interest.

It was reported in the November, 1944, issue of the Journal that the Board of Review had decided against the Commissioner in a case dealing with Commonwealth Loan interest taxable at 1930 rates where there were concessional rebates under s. 160. Following is an extract from the majority decision:—

"The assessment was made on the following basis, the various steps being taken in the order stated:

"(a) The rate of tax applicable to a taxable income of £9,695 derived from property is 196.23723 pence for every pound of the taxable income. The tax so calculated was £7,927/3/-.

"(b) The rebate under Section 160 was calculated at £70/10/11.

"(c) Subtraction of £70/10/11 from £7,927/3/- left £7,856/12/1, which, if there were no other factor to be considered, would be the amount of tax payable.

"(d) The extent to which the amount of £7,856/12/1 includes tax in respect of C.L. interest was ascertained by taking the following facts into account:

"(i) A tax of £7,856/12/1 represents 194.4909 pence for every pound of the taxable income of £9,695.

"(ii) Under the Income Tax Acts 1930, the rate of tax on a taxable income of £9,695 (derived from property) is 71.1684 pence in the pound.

"(iii) The difference between 194.4909 and 71.1684 is 123.3225, and the tax on £7,047 (C.L. interest) at 123.3225 pence in the pound is £3,621/1/-.

"On the foregoing basis the Commissioner has allowed what is described as a 'rebate' of £3,621/1/- in respect of the C.L. interest. This amount is the only item in dispute. The calculation as appearing in the notice of amended assessment dated 8th March, 1943, is as follows:—

"Taxable Income, £9,695 at 196.23723d.				£7,927	3 0
REBATES:					
Sec. 160 (concessional) on £90	£70	10	11		
C.L.I. @ 1930-31 rates on £7,047 . .	3,621	1	0		
Sec. 160 AB (Loans) on £1,130 . .	113	0	0		
				3,804	11 11
				£4,122	11 1

"The Commissioner now agrees that the amount of £1,130 should be £1,132 and that the rebate thereon should be £113/4/-, but this does not affect the issue.

"The taxpayer's main contention is that the 1930-31 rate of 71.1684 pence in the £ should be subtracted, not from the rate of 194.4909, but from the rate of 196.23723 pence in the £. If this contention is upheld, the so-called 'rebate' will obviously be more than £3,621/1/-. The taxpayer also contends that the concession under notice is not a rebate.

"Even at this stage the basis of the assessment is questionable, since there is no warrant for describing the amount of £3,621/1/- (or any other amount that may be substituted for it) as a 'rebate.' A further reason is the fact that the rate of 194.4909 pence in the pound is an artificial creation arrived at by taking into account the rebate of £70/10/11. This method appears to be wrong in principle. In the absence of statutory direction, a 'rebate of tax' would necessarily be taken to imply a previously ascertained tax, i.e., tax calculated at prescribed rates. This principle is, in our opinion, adopted for the purposes of the Act.

"Section 17 of the Income Tax Assessment Act provides that, subject to the Act, income tax 'at the rates declared by Parliament' is to be levied and paid upon the taxable income derived by any person. The rates for the year under review are declared in the Income Tax Act 1942, and Section 5(2) of that Act reads as under:—

"'The rate of income tax in respect of a taxable income derived from property shall be as set out in the Second Schedule to this Act.'

"The relevant part of the Second Schedule is in the following terms:

"'If the taxable income exceeds £2,100, the rate of tax for every pound of taxable income up to and including £2,100 shall be 124.7619 pence and the rate of tax for every pound of taxable income in excess of £2,100 shall be 216 pence.'

"The application of this rate to a taxable income of £9,695 yields a tax of £7,927/3/-, and without working it out we assume (in the absence of any dispute) that this is equal to a rate of 196.23723 pence in the pound. That would be the tax if no other elements entered into the assessment.

"Under the Income Tax Acts 1930 a taxable income of £9,695 would have been asesssed at the rate of 71.1684 pence in the pound, and by virtue of the

operation of the Debt Conversion Act and the Inscribed Stock Act (or either of them) that rate must be applied to the amount of £7,047 C.L. interest received by the taxpayer. On this point there is no dispute.

"Now, the excess to which Section 20 of the Debt Conversion Act refers is arrived at by applying to the C.L. interest (1) the rate of 196.23723 pence and (2) the rate of 71.1684 pence. The former rate yields £5,762 (approximately). The latter, according to the taxpayer's calculation, yields £2,087/13/8. The difference, to the nearest shilling, is £3,672/6/-, being £51/5/- more than the amount calculated by the Commissioner.

"In our opinion, 'the total amount of income tax which but for this section'—i.e., Section 20 of the Debt Conversion Act—'would be payable in respect of' C.L. interest in this case is £5,762 and (the correctness of that amount being assumed) this view would not be challenged if it were not for the provisions of Section 160. Indeed, it is solely because of those provisions that the Commissioner has arrived at a lower amount than £5,762. An examination of the section shows that its application does not produce the result shown in the assessment.

"Section 160 says that 'a taxpayer shall be entitled to a rebate in his assessment of tax equal to an amount ascertained' in a manner therein prescribed. These words import the existence of an assessment before the rebate is calculated. An 'assessment' means the ascertainment of the amount of taxable income and of the tax payable thereon—see definition in Section 6. Consequently, there must be an assessment by which the amount of *tax* is ascertained *before* the provisions of Section 160 come into operation. This means that the tax on any taxable income which includes C.L. interest must be ascertained before any rebate under Section 160 can be granted. If there are no rebates, the assessment remains unaltered. If, however, a taxpayer (as in this case) is entitled to a rebate, the amount of tax *already ascertained and assessed* is reducible by the amount of the rebate.

"Of course, the tax payable on the taxable income, *as such*, may not be the actual amount payable under a notice of assessment. That amount may include 'additional tax' under Section 226, or may allow for a previous overpayment or for rebates under Section 160. None of these elements can be permitted to obscure the fact that a specified *tax* (to be calculated in the manner prescribed) is payable on every taxable income: this is the fundamental basis of assessment.

"The Commissioner has adopted a different method. He has calculated the rebate *before ascertaining the amount of tax payable on the taxable income*, i.e., before making an assessment in the manner required by the Act. This method, as the taxpayer's representative contended, would inevitably create anomalies. It is not, however, because anomalies might arise that we have come to the conclusion that the departmental view is unsound. Our opinion is founded on what we regard as the clear intention of the Act.

"The Commissioner's representative cited certain remarks from the judgments in *Stevenson v. F.C. of T.*, (1942) 7 A.T.D. 154, 2 A.I.T.R. 410. Those remarks do not appear to provide any justification for the departmental action in the present matter. In our opinion, the method of assessment which was approved by the High Court in *Stevenson's case* is not to be altered merely because a rebate is allowable under Section 160.

"In principle, therefore, the taxpayer's claim is upheld."

The following example illustrates the effect of the Board's decision:

(1) Salary (personal exertion income)	£450	0	0
Conversion loan interest (property income)	50	0	0
Taxable income	£500	0	0

Amount subject to concessional rebate—						
Wife	£100	0	0			
Only child	75	0	0			
Medical Expenses	25	0	0			
	£200	0	0			
Assessment at 1944-1945 rates:						
Rate applicable to total taxable income at 1944-45 rates—						
Personal exertion, 65.6d. in the £.						
Rate applicable to total taxable income at 1930-31 rates—						
Property, 6.8447d. in the £.						
P.E., £450 @ 65.6d. in the £				£123	0	0
PTY., 50 @ 6.8447d. in the £				1	8	6
£500				£124	8	6
				£124	8	0
Less concessional rebate, £200 @ 65.6d. in the £	£54	13	4	54	13	0
Net tax payable				£69	15	0

N.B.—Considerations affecting the transition to the Pay-as-you-earn System of taxation have not been taken into account.

Pay-Roll Tax.

Car Allowances Paid to Travellers.

The question came before the High Court as to whether "car allowances" paid to travellers were within the meaning of "wages" as defined in s. 3 of the Pay-roll Tax Assessment Act 1941-1942, so as to render the appellant liable to tax upon them.

The travellers were employed to collect instalments due under hire purchase agreements and were remunerated by wages and commissions upon collections. It appeared that they were not compelled to provide cars, but if they did so they were paid weekly fixed sums representing about two-thirds of the expenditure incurred in using the cars. The case for the appellant rested upon the claim that the expression "allowances" as used in the definition of "wages" did not extend to a partial reimbursement of actual expenditure, but was limited to allowances which are in the nature of remuneration for services.

It was contended, for example, that if an employer were to give a traveller employed by him a sum for the purpose of purchasing a railway ticket to enable him to travel, such a sum would not be part of the wages of the employee. The "car allowances," it was argued, were of the same character.

Held (Latham, C.J., Starke and Williams, JJ.; Rich and Dixon, JJ., dissenting): that the "car allowances" in question were liable to pay-roll tax.

Latham, C.J., stated that "if the word 'allowances' were limited by construction to allowances which fell within the ordinary concept of 'wages' the result would be that the word 'allowances' in the definition . . . would have no significance or effect."

In the view of Starke, J., the "car allowances" were not made for the use or hire of cars by the appellant company and must therefore be remuneration for the services of the travellers.

Williams, J., held that "the Pay-roll Tax Assessment Act . . . is not concerned with pecuniary benefit in the sense of the profit that an employee derives from the payments which he receives from his employer, but with the actual remuneration which he is entitled to receive in respect of his employment, quite irrespective of the expenses to which he has been put to earn that remuneration."

Rich, J., dissenting, stated "I think it clear that, in its context, the word 'allowances' is intended by the Legislature to be read with a meaning *ejusdem generis* with the words which precede it "(i.e., 'wages, salary commission, bonuses,') whilst Dixon, J., also dissenting, said that "the whole context and subject matter shows that the definition of 'wages' is dealing with the emoluments of employment."

(*Mutual Acceptance Company Limited v. F.C. of T.* (1944) (not yet reported).)

NEW ZEALAND PRACTICE IN REGARD TO THE VALUATION OF TRADING STOCK.

In 1939 New Zealand enacted provisions which are almost identical with s. 31 of the Commonwealth Act, but omitting the words "of each article," so that New Zealand law refers to "the value of the trading stock" instead of "the value of each article of trading stock."

This has led the Taxation Department there to place the following construction upon the term "market selling value," (*vide "Cunningham and Dowland's Taxation Laws of New Zealand"*—(2nd Edition), para. 658) :—

"The Department regards the market value of any particular line of goods as being the total sale price which it is anticipated will be received for the whole of that line when eventually the goods are sold.

"In this respect the section is much more generous than the Australian provision upon which it is largely founded. The contrary view has been widely canvassed, and much has been made of the fact that the Australian section requires the taxpayer to value each article of trading stock at its cost price, market selling value, or replacement value, whereas the New Zealand section does not permit the valuation of articles separately. Assume that a trader has, say, five hundred fashion frocks on hand just at the end of the season. Assume the cost price to be £3 each and the current retail selling price £6 each. Because the season is nearly at its end, the owner may know that he will not sell more than one hundred at the full retail price, and that the balance will be out of date next year and sacrificed at £1 each. If he adopts the cost price, the value both under Australian and under New Zealand law is £3 each, or £1,500. If he adopts market selling value, he is under the Australian law obliged to value each article separately; and as he may sell any one or more of the five hundred frocks that day at £6 each, his market selling value must necessarily be £6 each, with a total value of £3,000. Under the New Zealand section the market value will be £6 each for the one hundred he expects to sell during the season, and £1 each for the four hundred which will be sacrificed as out of date next year, a total of £1,000."

Dealing with the question of stock reserves the authors state:—

"For many years past it has been the practice, when stock reserves of long standing have been discovered, to give the taxpayer the option of having the reserve spread over the years which are within the limits permitted by law for the reopening of assessments. That practice is followed to-day where existing reserves are voluntarily disclosed before or with the 1940 return. In cases where the taxpayer does not desire to have past assessments reopened, the Commissioner is prepared to entertain applications for leave to bring the reserve into account gradually over a period of years terminating not later than March 31, 1944."

The Matching of Costs and Incomes

By Norman S. Young, a.u.a. (commerce) a.i.c.a.

The Fifth Commonwealth Institute of Accountants Annual Lecture delivered in the University of Melbourne, on November 15, 1944.

1. Introductory.

In accepting the invitation of the Joint Committee of the University of Melbourne and the Commonwealth Institute of Accountants to deliver this, the fifth Annual Research Lecture in Accounting in the Melbourne University, I desire, as a representative of the Council of the Institute in South Australia, to express my appreciation of the compliment which has been paid to my State in thus permitting us to become identified with the splendid record of achievement which is reflected in the work already undertaken under the auspices of these Annual Lectures.

There is no doubt that the establishment of the Lectures in 1940 symbolized a significant and fundamental change in the outlook of the accountancy profession in Australia, a change which has manifested itself overseas, in which the emphasis is moving from the mechanical or procedural aspects of the accountant's work to an evaluation of the basic concepts which underlie accounting theory.[1] Evidence is accumulating to show that the profession is recognizing a wider social responsibility in connection with the use of accounting data—in the words of Professor Greer of the University of Chicago the accountant is becoming conscious that "his findings, and the manner in which he sets them forth, have become the basis for significant decisions and policies, not only in business affairs, but in economic, social and political matters as well."[2] Research has been particularly active in the field of accounting theory and practice which is concerned with the determination of the periodic profit or loss resulting from enterprise activity—"the determination of income is now generally recognized as the most important single problem in the field of financial accounting."[3]

Before submitting a somewhat tentative and, I must frankly acknowledge, incomplete analysis of the accounting concept of periodic "net profit" or "net loss," with its complementary explanation of the process of matching costs and incomes, by which means this residuum is determined, there are a few preliminary matters to which I propose to make brief reference. By following this plan I hope to be able to provide the background which is essential to a proper appreciation of the subject matter under discussion. I also wish to make it clear that I am only concerned with that section of the annual Revenue Account which reveals the profit or loss on operations.

2. The Status of Accounting.

George O. May, senior partner of the firm of Price Waterhouse & Co., America, and recognized as one of the outstanding world figures in the field of accountancy, in a paper delivered before the American Institute of Accountants in October, 1935,[4] was prompted to describe the "status" of

1. "To some extent the re-examination of accounting theory which is now taking place has been motivated by a desire to give precise and consistent form to a body of doctrine built up empirically over centuries; to some extent it is the inevitable result of a changing appreciation of the scope and purposes of accounting in the light of changing economic controls." A. A. Fitzgerald "Interactions of Accounting Practices and Economic Controls"—the inaugural annual Research Lecture established in the Canberra University College by the Commonwealth Institute of Accountants—delivered 22nd September, 1943.
2. Foreword to "An Introduction to Corporate Accounting Standards," by W. A. Paton and A. C. Littleton, p. 1.
3. George O. May, "Improvement in Financial Accounts"—*Journal of Accountancy*, May, 1937, p. 346.
4. "Improvement in Financial Accounts"—*The Journal of Accountancy*, Vol. LXI, January, 1936.

accounting, and its growth, in very modest terms when he said: "There is little to suggest that the course of accounting has been consciously influenced to any considerable extent by economic thought. The fact is, rather, I think, that *accounting is a tool of business*, and that the development of accounting, like the development of business law, has been determined by the practices of business men." This view is supported by other authorities.[5]

Accounting is a tool of business! We might profit by an examination of this statement. It suggests a relationship and a limitation.

Managerial pressure for the adoption of a particular mode of recording and expressing financial transactions may arise from a number of motives, ranging in varying degrees from business prudence to rank dishonesty. Between these two extremes we shall find considerations of custom, expediency, the desire to stabilise annual profits, and tax saving, advanced as reasons why standards of sound practice should be disregarded or abandoned.

Except in those cases where fraudulent practices are proposed, when the accountant's position is clear beyond doubt, it must be acknowledged that the fight (when one is made) to discountenance departures from sound accounting standards is generally unsuccessful. One reason, as we shall see later, is the difficulty of getting accountants to agree on what are "sound" standards; another, and probably more persuasive, is that business management has the last say.

Gilman recognized the strong influence of managerial wishes on accounting practice when he said: "There can be little doubt that part of the present pattern of accounting practice is the result of business expediency. No adequate survey of modern accounting can ignore this factor."[6]

Here we observe our first, and a very serious obstacle to the accomplishment of the programmes of our research workers. It is difficult to escape the conclusion that whatever subsidiary functions may be developed for the accounting process its prime function is to serve business, and for this reason it is fundamentally individualistic and not social in its sphere of operation and influence.

3. The Basis of Accounting Theory.

This is a topic upon which many books have been written, a field of enquiry which has occupied the unceasing attention of research workers for years; it is obvious, therefore, that I cannot hope to give any adequate explanation in the space of a few paragraphs. I must be content with a few general observations.

I shall start by inviting your attention to the very excellent description of the function of the accounting process which has been supplied by Professor W. A. Paton, of the University of Michigan, viz.: "Accounting is a synthesis of concepts, rules and techniques designed to facilitate understanding and control of economic activity . . . it strives to measure economic forces in financial terms and to communicate the results of such measurements to interested parties."[7]

Two points emerge from a consideration of Professor Paton's definition: firstly, the emphasis on the conventional nature of accounting theory—it is a synthesis of concepts, rules and techniques—and secondly, the application of the accounting process is limited to that section of economic activity which can effectively be measured in financial terms.

5. John A. Hobson, "The Evolution of Modern Capitalism," p. 22. W. A. Paton and A. C. Littleton, "An Introduction to Corporate Accounting Standards," p. 4.
6. "Accounting Concepts of Profit," p. 24.
7. "Recent and Prospective Developments in Accounting Theory," p. 1.

If we accept the view already submitted that accounting is primarily an instrument of business enterprise, it became inevitable that when accountants were required to measure and record the infinite variety and complexity of transactions which form the basis of enterprise activity, they should have found it necessary to establish certain conventions, conventions which in the words of Gilman "are of primary importance because they control the design of accounting."[8]

It is appropriate therefore that we should now consider some of these conventions.

I.—The Entity Convention.[9]

Many writers regard this convention as fundamental to a proper analysis of the accounting structure, but this view is not universally accepted, as some accountants prefer what is generally described as the proprietorship convention.

The basis of the entity convention is the assumption that any enterprise (whether incorporated or unincorporated) which maintains a record of financial transactions with respect to its activities under a system of double entry bookkeeping, acquires, from an accounting point of view, a separate, artificial personality—an institutional existence distinct from the persons who supply the enterprise funds.

This conception must not be confused with the legal status of the limited liability company which is frequently described as "an artificial person"; it is a conception derived from the theory of accounting as expressed in accounting records.

Disregarding legal considerations it interprets the basic bookkeeping rule that "every debit must have a corresponding credit" as being consistent with the treatment of the claims of creditors and proprietors as equities which are represented by and are equal to the value of the enterprise assets.

Whether the convention is generally accepted or not appears to be relatively unimportant—it certainly expresses the common understanding of the proprietorship class. Thus, where a merchant carries on a trading venture he wishes to know whether his "business" has made a profit or a loss; in seeking this information he does not confuse the enterprise activities with his domestic transactions. Where he has more than one business undertaking he requires to know the results of each separately.

II.—The Continuity Convention.

Business enterprise is predominantly conceived on the basis of a more or less permanent and continuous life being assigned to trading or other activities; liquidation is rarely sought, it is generally compulsory only when conditions point to the cessation or unlikelihood of profitable operations. The motive force of business is long-term profit-seeking.

The significance of this convention becomes apparent when considered in relation to the accounting period convention, i.e., the convention which requires an estimate of profit or loss shall be made at regular intervals (at least once a year to comply with the mandatory provisions of the Companies Acts and the Income Tax Act, and sometimes at shorter intervals for the benefit of management).

"Profits are accurately and definitely determinable only when a business ceases and is liquidated. Profits of a going concern are always estimates;"[10]

8. "Accounting Concepts of Profit," p. 10.
9. For a full discussion, see "The Entity Theory of Accounting"—L. Goldberg, *The Australian Accountant*, Vol. XIV, p. 239. Paton & Littleton, "An Introduction to Corporate Accounting Standards," and A. C. Littleton, "Accounting Evolution to 1900."
10. Roy B. Kester, "Advanced Accounting," p. 494.

this knowledge consciously or unconsciously exercises a profound influence both on management and the accountant when they are required to determine the periodic profit or loss of a going concern. The natural tendency is towards conservatism, the building up of reserves to-day against the unknown trading risks of to-morrow. In recognising the continuity of existence of business enterprises in this way we can observe one of the major reasons why the periodic statement of profit or loss is liable to become distorted—whilst it purports to show a determination of the net profit or loss which has resulted during a given period it does not, where the influence of conservatism is strong, show the true profit earned, or loss sustained, within that period—factors outside the time limit of the accounting period are artificially introduced which have a bearing on the result.

The continuity convention is at the root of that portion of accounting theory which relates to the measurement of periodic profit or loss. It is the reason why accountants emphasize earning power as the true test for valuing a proprietorship interest in a going concern; it explains why accountants are reluctant to depart from the "cost basis" as the general standard for reporting assets in a balance sheet (in this connection I am using the expression "cost basis" to mean residual or unexpired costs at balance date, i.e., after allowances for depreciation, deterioration and depletion in the case of fixed assets and, in the traditional conservative practice, reductions, where necessary, to market replacement cost in the case of current assets); it is the source of the accounting concept that all enterprise expenditure, whether described as revenue expenditure or capital expenditure represents costs which during the lifetime of the business have to be matched against and if possible recouped out of incomes.

Expenditure on so called "assets" under this convention is simply treated as "a cost accumulation in suspense"—costs incurred for the benefit of and to be charged against future operations (by way of periodic depreciation charges or otherwise). Having been acquired for use in the business, subsequent variations in the market value of assets during their effective lifetime of use are deemed to be irrelevant, the original cost is the significant figure because it is that expenditure which has to be recaptured. Accounting is not a process of valuation, and in showing assets in a balance sheet the accountant does not purport to measure their probable realisable worth—why should he if there is no intention on the part of the management to wind up the enterprise at that date? In other words, the accountant recognizes that the annual balance date is not a terminal point in the true sense—it is an arbitrary break in the continuous flow of enterprise activity.

It is at this point that we can observe a source of conflict between accounting and economic theory—the economist is primarily concerned with values, the accountant is primarily concerned with costs. We can also note the legislative and judicial conflict which arises when an attempt is made to reconcile this accounting concept with the legal doctrines of capital and income.

III.—The Accounting Period Convention.

As already explained, the practice of preparing periodic reports in the form of profit and loss accounts and balance sheets whilst essential to the effective conduct of business operations, and made compulsory by law, introduces an artificial feature into the accounting process which sometimes is not fully appreciated.

Modern business activity generally consists of a series of independent and overlapping operations which flow in an almost unbroken stream through the various stages of acquisition, production and distribution.

At balance date the accountant is required to cut this stream and determine whether a profit or loss has resulted during the interval between his last test reading and the present one—generally a period of one year. As we shall see later, the difficult problems of matching costs and incomes are directly derived from this convention.

Accountants recognize the extreme limitations in the accuracy of the periodic assessments of profit or loss which are made in the case of a going concern, and Professor Canning expressed the general, and frequently emphasized, warning issued by accountants when he said: "All measures of income for periods of less than the total lapse of time during a relationship or for less than the duration of an enterprise are approximate indexes only."[11]

IV.—The Monetary Convention.

It will be recollected that in adopting Professor Paton's description of the accounting process, we accepted the limitation that accounting recording would be undertaken in financial terms and would relate only to that section of economic activity which could be so interpreted.

Accountants were left with no alternative but to adopt a money price for recording the wide range of transactions or economic exchanges which characterize business activity.

Professors Paton and Littleton have supplied the following reason: "accounting uses money price only because it is a common denominator by which diverse objects and services are expressed homogeneously, and because it is the common mode of expressing bargained exchanges."[12]

It is obvious of course that in periods where the purchasing power of money fluctuates the accounting convention of assuming that recorded money price can be adopted as a stable measuring unit is subject to criticism. As yet, however, there is no inclination on the part of accountants to adopt the ambitious scheme of translating recorded costs and incomes into their equivalents in purchasing power, as proposed by the American accountant, H. W. Sweeney[13]. Accountants recognize the existence of this convention and the limitations which it imposes.

There are other accounting conventions, but those already discussed confirm, I suggest, the statement of George O. May that "accounting is largely a matter of convention, a process involving the recognition of custom and the use of judgment."[14]

4.—The Influence of Economic Doctrines on Accounting Theory.

We have seen that the theory of accounting is largely conventional in its nature and that the practical application of that theory is closely bound up with the requirements of business enterprise.

It must be admitted that these limitations present a serious barrier to any attempted reconciliation of the viewpoints of the accountant and the economist, and they no doubt explain why accounting has been so little affected by economic theory. W. B. Lawrence has suggested that "the differences in opinion between accountants and economists are irreconcilable because they have no common meeting point."[15]

Accountants generally find it difficult to understand economic theory, even more so to-day with the assaults which are being made on the teachings of the classical school of Alfred Marshall and others. I am afraid

11. "The Economics of Accountancy," p. 65.
12. "An Introduction to Corporate Accounting Standards," p. 13.
13. "Stabilized Accounting," H. W. Sweeney.
14. "Twenty-five Years of Accounting Responsibility," Vol. 2, p. 306.
15. "Cost Accounting," W. B. Lawrence, p. 415.

the economists even more so than the accountants conform to J. B. Priestley's description of the characters in Tristram Shandy—"it is a question of every man of them pursuing his own ideas as a dog follows his nose. It is all a race of hobby horses; every mind is shut up in a little box."

Is it any wonder that the accountant remains immobile after a mixed treatment of the palliatives of "Victory Without Debt"[16] and "The Answer to Tax Slavery,"[17] the bloodletting of "The Road to Serfdom,"[18] and the mental torture of "The General Theory of Employment, Interest and Money"[19]—to mention only an average sample of the conflicting expositions of the operation and effect of economic laws which are new pouring from the printing presses.

I think we can safely conclude that as yet economic doctrines have had little influence on the development of accounting theory.

On the other hand the business man and his accountant representative are going to be very vitally concerned in the methods adopted for converting the country's war-time economy to peace-time standards; that economists of one school or another will play an important part in finding a way out of the present financial labyrinth is certain. No one can yet see with confidence how in the post-war economy we shall be able to meet the heavy interest burden on the national debt; how we shall deal with and overcome the bogy of inflation which is at present being checked by price control and stabilization; whether the threatened, and it would appear inevitable, retention of heavy income tax rates in the post-war years will destroy initiative in business, to mention only a few of the forces which will be straining at the national economy. These problems are the problems of society as a whole, but the business community is vitally concerned in their satisfactory solution. It may be therefore that in the post-war years the conventional nature of accounting theory will become subject to revision, to enable business management, through the instrument of accounting, to take a more positive part in social affairs.

5.—The Influence of Legal Forces on Accounting Theory.

Whilst up-to-date accounting theory has remained relatively immune from the influence of economic doctrines the same cannot be said with respect to legal forces. Here we find, particularly in the statute law, evidence of a coercive influence which cannot be ignored. The effects on accounting theory and practice of income tax legislation and war-time controls, such as the prices regulations, have been both indirect and direct;[20] indirect to the extent that they have influenced business management to seek means of expressing and recording financial records to simplify compliance with legislative prescription and direct as in the case of the private company tax code "which compels a disregard of sound accounting practice."[21]

Although our legislators have shown an occasional disposition to disregard accounting theory in framing legislation, the judiciary has generally been at pains to uphold the best standards of business practice.

Fletcher Moulton expressed what appears to have been the consistent policy and opinion of the English Bench when he said: "It is a great pleasure to take part in a judicial decision in which the Court has set a good example

16. "Victory Without Debt," C. Barclay Smith.
17. "The Answer to Tax Slavery," C. Barclay Smith.
18. "The Road to Serfdom," F. A. Hayek.
19. "The General Theory of Employment, Interest and Money," J. M. Keynes.
20. For a full discussion, see "Interactions of Accounting Practices and Economic Controls," A. A. Fitzgerald, *The Australian Accountant*, Vol. XIII, p. 371.
"On the Margin of Accountancy," J. A. L. Gunn, *The Australian Accountant*, Vol. XII, p. 353.
"Accounting Concepts in Australian Legislation," A. Clunies Ross, *The Australian Accountant*, Vol. XI, p. 497.
21. "Income Tax as an Expense in the Computation of Net Profit," J. M. Greenwood, *The Australian Accountant*, Vol. XIV, p. 326.

to the mercantile community by endorsing the practice of some of the most intelligent and most honorable of its members; and it is equally painful when one feels that one is giving the stamp of judicial authority to something which cannot be supported from that point of view."[22]

Perhaps at this stage I should make it clear that my proposed examination of the accounting concept of matching costs and incomes is to be conducted from the viewpoint of the "financial" or "proprietorship" accountant and not the "cost" accountant. As pointed out by Mr. L. A. Schumer in the 1943 Lecture of this series[23] "the proprietorship accountant is essentially an historian concerned with the recording of events and not with the shaping of them." The cost accountant on the other hand in his pursuit of practices which will operate as an effective aid to management for future operations is prepared to ignore many of the controls which dominate proprietorship accounting theory including the "rejection of conservatism, the use, on occasions, of the concept of economic sacrifice as a test of measuring cost (by the inclusion of imputed costs such as interest on capital) and the ignoring of the effects of the conventional accounting period in cost distribution." The cost accountant has constantly an eye to the future—in the words of Lord Macaulay in his Essay on History, to the cost accountant: "No past event has any intrinsic importance. The knowledge of it is valuable only as it leads to the formation of just calculations with regard to the future."

22. *Sun Insurance Office of Australia v. Clark*, 6 T.C., p. 70.
23. "A Revaluation of Cost Accounting," L. A. Schumer; *The Australian Accountant*, Vol. XIII, p. 270.

(To be continued.)

Managerial Accounting — The Accountants' Contribution to Management

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1. Introductory.

I feel signally honoured in having been asked to deliver the Second Commonwealth Institute of Accountants Research Lecture this evening. The honour is the greater because the lecture is associated with this University College, situated in this, the Capital of the Commonwealth.

I have had the privilege of reading the lecture given by Mr. A. A. Fitzgerald last year, and could not but be impressed with the high standard he has set. It may be remembered by those who were present on that occasion, that the lecturer traced the evolution of special phases of accounting thought, particularly that relating to Cost Accounting, and proceeded to show the part played by economic controls in that evolution.

I intend to-night to endeavour to elaborate certain aspects of this question, commencing with a brief note on General or Financial Accounting, a consideration of the evolution of Cost Accounting, together with the reasons for such evolution, then proceeding to an analysis of the development of Managerial Accounting and the causes thereof. I also hope to analyse Managerial Accounting, devoting some thought to its definition, its scope, its methods and its limitations. Finally, I propose to indicate my own views in relation to the obligation of the Accountant, both professional and

commercial, in relation to this subject, and the promise that it holds for the Accountancy profession.

2. The Evolution of Managerial Accounting.

General or Financial Accounting in some form or other is extremely old. Traders in times of antiquity had persons in their employ who were charged with the necessity of keeping records of accounts. Such records are mentioned in connection with the Chinese, the Egyptians, the Phoenicians and the Arabs. It is rather interesting to note in connection with these old records that even in those times some emphasis was placed upon the cost aspect. Breasted's volume on the History of Humanity, for example (quoted by Dr. Alphonse Perren in a Bulletin of the N.A.C.A. of 1st June, 1944), points out that 3,000 years before Christ, Accountants had to present to the Pharaohs each year, a detailed report on the cost of the harvest so that "just taxes on wheat could be levied."

Similarly, the Code of Manu, which reflected Hindoo thought in the time of Buddha, made it obligatory for Kayasthas or Court Auditors, to audit trading profits, so that the sales price of goods could be ascertained and the King thereby enabled to make a levy of 5% of the profit thereon. The following quotation from that Code is significant:—

> "The sales price of merchandise shall be evaluated according to the distance it has travelled, the time it is kept in storage, the expenses connected with it, the time it has to travel to reach its final destination, and the profit that can be anticipated."

Dr. Perren gives other instances of primitive forms of Account and Cost Keeping, particularly under the Greek and Roman Empires. In the ninth century independent public accountants called "Rationari" appeared in Italy, and one of their specific tasks was the appraisal of maritime cargoes, which was carried out through a regular system of estimated costs. It was in the 15th century that the Franciscan Monk, Luca Pacioli, invented double entry bookkeeping. There are other records of the development of costing in later times. Raymond de Roover, for example, in the 16th century, speaks of a bookkeeping system by a Frenchman, Christopher Planter, for his printing shop in Antwerp in 1555. This system included a description of perpetual inventory and a plant merger. Early in the 19th century two French accounting experts, Cozaux and Godard, made valuable contributions to the literature of Cost Accounting, the former in relation to materials control and the latter regarding process costs. During the 19th century considerable progress was made in England and books by Garcke and Fels, G. P. Norton and J. S. Lewis, made their appearance. At the close of the century these were followed in the United States by a publication on costs by J. Lee Nicholson.

General or Financial Accounting was deemed by the Roman regime to be all that was necessary for the control of business. It was altered throughout the centuries and reconstructed to meet the views of the times, until to-day in its present form it is the indispensable record of business. Its form and interpretation has manifested itself finally in the Balance Sheet and the Profit and Loss Account—all the subsidiary financial records merely leading up to these statements.

The Balance Sheet summarises the financial position of the enterprise at the given date, whilst the Profit and Loss Account sets forth the financial result of the operations during the period covered by the statement. These statements, in the last analysis, display the Proprietorship financial interest in the enterprise. The exact form and composition of

the Balance Sheet has changed over the years, much of the change being because of the desire for conservatism. There are, however, still some serious deficiencies in some of the accounting processes which develop into the Balance Sheet, and at least it is correct to say that accounting practice has either not yet developed or has not been able to ensure a standardised procedure which would enable Balance Sheets at large to be adopted at face value. If proof be needed of this assertion, I recommend a study of "Among the Balance Sheets" by the Editor of "Finance and Commerce" —England, particularly the chapter on "Pretty Balance Sheets."

In its day to day recordings, general or financial accounting deals with what may be termed the external transactions of the business—the dealings with the world outside. It shows, on the one hand, the outlays for materials, labour and expense, and, on the other, the income from sales. It does not seek to bridge the gap between these two extremes, but leaves it to the Profit and Loss Account to summarise at the end of the period what has happened during that period.

With the development of modern methods of business, there came a demand for more comprehensive information relating to the internal operations. It became imperative to know just what was happening between the time money was outlayed in materials, labour and expense, and the time the finished product was sold to customers. This field became known as Cost Accounting, though a fuller definition will be given later.

A number of important factors led to the birth of modern Cost Accounting, but its growth can largely be traced to certain factors. In this connection I might add that I am looking at a world and particularly the American and English thought rather than the position here in Australia. Even if some little way behind, we here tend to follow that thought.

1. *The Growth of the Factory System.*

The Industrial Revolution swept away much of the personal supervision of all operations by owners, as it resulted in:—

(a) The pooling of capital resources.
(b) Increases in the sizes of factories.
(c) Increases in the number of products manufactured.
(d) Increased complexity of manufacturing processes.

With the development of modern business, management lost the personal touch and the personal supervision, and something had to be evolved to take its place. If management could not see for itself what was happening, it had to be given records which would disclose the picture. These records could be finally given only in accounting form and by the use of accounting terms, with a gradual emphasis on cost.

2. *The First World War.*

During this time, increasing importance was placed upon costs, partly because reimbursement for war orders was often largely tied to a cost basis, as in the case of "cost-plus" contracts, and partly because there came a growing realisation that in general those organisations with accurate costing records were usually the most efficient. The war brought with it an enforced contest of industrial strength, and the dawn of a demand for greater efficiency, particularly in the direction of the husbanding of resources and the elimination of waste.

3. *Tariff Legislation.*

The enquiries of Tariff Boards in relation to protective duties necessitated a knowledge of costs and the accumulation of costing data which could be incorporated in statements placed before such Boards. Even after duties had been granted, there was a continual demand for costing knowledge, as many of the matters were subject to periodical reviews.

All these factors, together with the general growth of the managerial function, prompted the increasing growth of Cost Accounting, and this was further emphasised by the engineer. F. W. Taylor, Emerson, Merrick and the Gilbreths had all been placing specific emphasis upon efficiency, and it became necessary for the accountant to record some of these factors in accounting terms. From the early statistical form, the evolution of Cost Accounting gradually merged into a reconciliation of cost accounting records with the financial accounts, and thus was finally brought strictly into the regime of the accountant.

Both during and immediately after the first World War, there was a comparatively rapid extension of costing methods, and this went on until 1921, when a period of deflation became evident in many countries. This was the signal for the raising of queries as to whether the cost accounting methods in use were the best obtainable. Up till that time it was historical cost accounting—the method which results in a record of all costs completed after all the transactions affecting those costs have been finalised. They were actual costs. It was only natural that in a search for ways of escape from the conditions engendered through the deflationary period there should be an examination of (amongst other things) the weaknesses in cost accounting functions and control. The whole subject came under critical survey, and as a result, a growing body of opinion considered that criticism could justifiably be levelled against existing cost accounting methods because of the following factors:—

(a) There was an unrealistic approach to the question of cost finding, and exception was often taken to the fact that costs of idle equipment (very often the result of over-equipped plant) were included in product costs supplied to management. Management frequently found cost accounting figures gave no true guide to the position.

(b) The portrayal of cost figures could not be made in such a way as to give a real index to efficiency obtained. Costs could be compared with those of the preceding period, but here again so many other factors intruded that the picture was frequently distorted.

(c) The preparation of the cost figures was frequently so delayed that when they became available they were of little use. They were historical costs, and as such, were interesting from a history angle, but were often too late to be used for efficiency purposes.

(d) Many of the systems were expensive to operate, and, particularly because of the weaknesses described, management commenced to ask whether the value obtained from such cost accounting systems was really worth the cost. Where large sums were incurred to obtain figures which became available so late that the time for their useful interpretation had gone, it was only natural that the expense of such systems should be seriously questioned.

This criticism came from all sections of management. It was not confined to the top-line executives. It came from the Sales Manager, who was in trouble with selling prices and policy; it came from the Production Chiefs, who compared the methods of cost accounting detrimentally with the engineering approach; and particularly from the Engineer came the request for something which he could really use, and which could be treated by

him as a guide and a chart to help him while the job was actually in process. It came also from the Cost Accountant who was himself dissatisfied with the results being achieved, and felt that it should be possible in some way to eliminate the weaknesses of existing systems and to provide something which would assist in real control at the time such control was needed.

These factors became increasingly important and the demand for revision became increasingly insistent when conditions became so difficult that industry in general was faced with serious losses. Like so many other business factors, the weaknesses of cost acounting were not important when profits were comparatively easy to obtain, but the swing of the pendulum brought the whole subject into relief. Some concerns, noting the expense involved in recording, accumulating and sorting time tickets and material requisitions, and the amount of clerical work involved, decided to dispense with cost accounting. Many others, however, felt that it must be possible to improve the methods in use by tying costs to some kind of target and during this period, the idea of Standard Costs was largely born.

The solution was then attempted along the lines of a progressive revelation of costs, and such comparisons as were necessary to reveal inefficiencies and discrepancies. This obviously implied the use of some kind of standard or aim, so that actual results, when compared, could throw into relief differences demanding the attention of management. The idea of some kind of standard was not new in itself. Many years before specificational estimated costs had been used, but only in a primitive way, and they had, in turn, given way to the job order system. With the turn of the cycle. the standard cost came, not to supplant, but at least to share the field with other types of costs.

It is very important to note the change in emphasis and outlook which resulted in these progressive changes. Previously management had been content to look backward, to view in retrospect the happenings of the previous period—whether these were shown in the Profit and Loss Account and Balance Sheet or in the historical costs. But the emphasis began to change to the present. There was no suggestion that the Profit and Loss Account and Balance Sheet should lose its importance, but management, feeling its responsibility, desired current information regarding what was happening. What is even more important is that there were the first stirrings of a desire which was to call Managerial Accounting into being.

In enlightened minds even the development of Standard Costs did not bring all that was required. The emphasis was again changing and was passing from the present to the future. It took the form of an increasing interest in Budgetary Control. Until the year 1929, the results obtained from the adoption of this type of control had been conflicting. Some declared it to be a heaven-sent device for the solution of industrial ills, whilst others decided that its benefits were illusory, the ideals being shattered by actual results. The major portion of industry, however, adopted a non-committal attitude of awaiting further information and more definite results.

The world depression brought with it business troubles and worries which were somewhat new in character. Immediately there came the necessity for husbanding every resource and taking advantage of every possible plan which promised any sort of aid—and the subject of Budgetary Control received more urgent and more universal consideration. In U.S.A., the demand for exact information became almost nation-wide and in the year 1930, the National Industrial Conference Board conducted an inquiry to collect full information regarding the budgetary control movement and to seek to estimate the results and successes that had been achieved.

Almost simultaneously (July, 1930), the attention of the International Management Institute was focussed on the subject at Geneva in an effort to arrive at the same information. The results of both inquiries were eminently favourable and really gave the subject its charter. Since then, its adoption in both U.S.A. and Europe has proceeded apace.

The growing importance of Budgetary Control did not in any way supplant Cost Accounting. They proceeded in parallel lines. They both commenced to take shape as part of a larger movement toward what has been termed Managerial Accounting. It is interesting to note that several factors actually contributed and are in process of contributing to this development.

1. *Management Information.*

Even apart from other factors, the responsibilities of management were growing and there came a desire to adopt the Principle of Exceptions —that is, that management concentrate upon the things that do not go according to plan. That pre-supposed a Plan and accurate records, so that the actual could be compared with the Plan. In many cases this could partially be achieved by Standard Costs, but could much more comprehensively be achieved by a combination of costs (preferably Standard Costs) and Flexible Budgets.

2. *The Depression.*

As there was a search for every type of management aid, cost accounting came in for its share of attention. The knowledge that the weakest would "go to the wall" made more urgent the demand for reliable costs. This factor was accelerated during the depression by the failure of profits to materialise, and manufacturers demanded more analytical accounting methods in a desperate effort toward survival.

With the lapse of a few years after the depression (that is, in the years just before this present war), management thought even more deeply about the depression, its causes and how it could have been avoided, and in many cases it came to the conclusion that if comprehensive and accurate managerial information had been available, if the depression could not have been avoided, at least the worst of its effects could have been withstood.

3. *The Second World War.*

Again it has been found necessary to arrange for remuneration covering a substantial portion of war contracts to be associated in some way or other with cost. Though "cost-plus" contracts have not been used in some countries to the same extent as during the previous war, in many ways costs have been just as important and even the American "Renegotiation" will largely be tied with proved costs. Here in Australia, the use of costs has grown enormously, and because of war contracts, many organisations which had no previous experience whatsoever with costs, have been forced to commence to accumulate cost figures upon which reimbursement is actually made.

4. *Prices Control.*

While a somewhat similar state of affairs has been in operation in many other countries, here in Australia the importance of costs has been emphasised through the operations of the Commonwealth Prices Commissioner. Price increases and subsidies depend upon accurate costs and management has been forced into paying increased attention to these factors.

5. The Post-War Period.

The war has now been in operation for five years and in many cases for at least three years it has been generally recognised that business will have to face particularly difficult problems in the post-war period. It is, I think, correct to say that management is under no illusion in that regard. It therefore desires all the help that it can get—whatever managerial aids are available.

6. The Increasing Emphasis on Profit Control.

Because of the association, at times, of Profit Control with Prices Control, it is, I think, necessary to mention that I use the term Profit Control throughout this lecture in the sense of the increasing of Profit through the increase of managerial efficiency. Whereas twenty years ago there was an increasing emphasis placed on Costs and Cost Control, there is to-day a growing recognition by management that it should think in terms of Profit, rather than Costs. To think Profit Control instead of Cost Control will alter the psychology of many organisations.

The change is best illustrated by the old approach of—Sales less Costs = Profits and the newer — Sales less Desired Profit = Costs.

It should be noted, however, that just as the primary emphasis is placed upon Profit, there is also an additional emphasis placed on Costs. The two join forces in an attempt to satisfy the newer managerial approach.

Before proceeding to a further analysis of Managerial Accounting, I think I should say something of the relationship between Budgetary Control and Costs—particularly Standard Costs.

The statement is sometimes found in text books on cost accounting, that budgeting and standard costs are the same. It is remarkable how often this aspect of the matter is brought forward, seemingly originating from claims made right from the first by the pioneers of standard costs. Frequently in treatises on costing, the expression "standard costs" was referred to with the expression "budgeted costs" as an alternative rendering. The confusion that exists in relation to this matter is possibly more one of terminology than of concept, as the very term "standard costs" to-day has more than one meaning and generally requires amplification. In my view, however, this opinion cannot be sustained, though budgeting uses, to a very large extent, the results set forth in cost accounting, and, furthermore, accurate costs, particularly standard costs, become a valuable aid in the compilation of the budget. If this use of past results was the only factor involved, the relationship between cost accounting and budgeting would be no more definite than in the case of general accounting and budgeting. Standard cost accounting and budgeting, however, both use pre-determined results as a basis and these are arrived at by the operation of standards. It is this factor which has given rise to the oft-repeated statement that budgeting and standard costs are identical. If this were true, however, it would seem to indicate that budgeting is simply standard costs somewhat disguised and given a new name.

There is an essential difference between standard costs and a budget. Standard costs do not make a budget. Some companies have standard costs systems without budgeting. On the other hand, there are many concerns which have adopted budgetary procedure while having no standard costing system. Some organisations have both standard costs and budgetary control. Furthermore, it is well known that there are some types of businesses to which the application of standard costing systems is quite unsuitable, and sometimes well-nigh impossible, yet in which budgeting can be profitably employed. Applying the definition of budgetary control

to standard costs, it will be found that the latter conforms to it only to the extent that it affords a basis for currently measuring certain operations. Standard costs, however, do not forecast trends to the same extent as budgets, nor do they constitute a programme or co-ordinate the various activities of a business to provide a vital policy.

3. The Definition & Aim of Managerial Accounting

Managerial Accounting may be simply defined as the inauguration, accumulation, development and interpretation of comprehensive accounting, cost accounting, budgetary and statistical data, and controls for their maximum use by, and value to, management. It is essentially a management tool—a device of management.

It does not supplant either financial or cost accounting. It is separate from each, but is also inextricably bound up with them, particularly with cost accounting. It is really the third of three types of accounting which can be interpreted as referring largely to the past, present and the future. The financial figures disclose the position resulting from past transactions. The costs of the products of the organisation refer to the present—at least they should do so, if the cost accounting results come through reasonably quickly. They describe what the costs are, not what they have been six months ago, not what they are likely to be in six or twelve months' time. The emphasis is placed on the present, though with standard costs there is also a future aspect.

The essential outlook of managerial accounting, however, is towards the future, though there is also a control aspect which deals with the present. This is the sphere and the scope of this newer type of accounting. Broadly speaking, therefore, Financial Accounting is concerned with the past, Cost Accounting deals with the present, and Managerial Accounting with the future, allowing for some over-lap between each. This is especially true if Cost Accounting is referred to purely as Cost Finding.

In this time of war, perhaps it is appropriate to sum up the matter by referring to the financial accountant as the rear-guard of the army; the cost accountant is with the main force, while it is the managerial accountant who forms the vital advance guard. This thought was first developed by P. W. Pinkerton in an address to the N.A.C.A. as reported in the 1932 N.A.C.A. Year Book. The theme outlined on that occasion was briefly that it is the duty of the advance guard to go ahead, to explore the track, to see where the army is headed for. It is not the duty of the advance guard to select the course which should be taken, for that is properly the responsibility of the commander, but it is one of the obligations of the advance guard to indicate to the commander what dangers, what obstacles and what pitfalls are likely to be encountered in the chosen course—to suggest a better course for the consideration of the commander, if knowledge gained by the advance guard shows this to be desirable. In this way, if the advance guard carries out its duties properly, the commander will know the safest, the surest and the best course to lead the rest of the army.

It may be argued that Cost Accounting is really Managerial Accounting. Surely, however, this cannot be substantiated. Cost Accounting has been defined in the following terms:—

> "There is a general impression that cost accounting is a separate branch of the science of accounting, and has little relation to general accounting. Such is not the case. Cost Accounting is merely an application of accounting principles in greater detail than is usually found in general accounting."
>
> *Lawrence, "Cost Accounting," Page 3.*

"Cost Accounting is the application of general accounting principles to the recording, analysis and interpretation of material, of labour, and of overhead costs, for functions, divisions, departments, operations, units of product lines, sales, territories, and salesmen."

Blocker, "Cost Accounting," Page 1.

"Cost Accounting is a phase of general accounting procedure, through which details of the costs of materials, labour and expenses necessary to produce and sell an article are recorded, summarised, analysed and interpreted."

Neuner, "Cost Accounting," Page 2.

"Costing is the proper allocation of expenditure and involves the collection of costs, for every order, job, process, service or unit in order that suitably arranged data may be presented to a producer as a guide in the control of his business."

Wheldon, "Cost Accounting & Costing Methods," Page 1.

Numbers of other definitions could be added, and even though any definition should be considered in relation to its context, these definitions do not cover managerial accounting. The latter means much more than they express. It is true that Standard Costs approach nearer, but it would be incorrect to say that a concern which is not suitable for standard costs is not suitable for managerial accounting.

It is particularly necessary to make this distinction between cost and managerial accounting because:—

Firstly, the latter embraces a much wider scope than cost accounting, as will be outlined later.

Secondly, the former can refer solely to a system of historical cost accounting which from a managerial angle may be of little value.

Thirdly, the term "cost accountants" is to-day used largely by those who take out costs or who check costs. Even cost accountancy demands more than this.

Budgetary control comes closer to Managerial Accounting. Indeed, a number of writers say that Budgetary Control is the same as management.

"The term 'Budgeting' is more nearly synonymous with 'Management' than any other single chapter title in this text."

"Industrial Management," Knowles & Thomson, pp 11/12.

It is possible, under certain circumstances, to prepare budgets without a knowledge of costs, but it would not be correct to say that once the budget is prepared, a system of managerial accounting has been introduced. These are but tools of managerial accounting, and it is these tools which it is now proposed to consider.

(To be continued.)

Book Review

National Security Legislation.—A new, the fifth, edition of "Manual of National Security Legislation," has been released by Dr. H. V. Evatt, the Attorney-General.

The manual, which embraces this war-time legislation in force on 1st August, 1944, contains 1,500 pages, and has been issued in two volumes. The first volume includes the National Security Act, the Women's Employment Act, the Black Marketing Act and the Regulations made under these Acts with aphabetical headings "A" to "P." The second volume contains the Regulations with alphabetical headings "R" to "Z," a selection of Orders and other instruments, and an index covering both volumes.

W. BRUCE RAINSFORD.

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Contributions which are regarded as unsuitable for publication will be returned to the sender, but no responsibility can be accepted by the Editor.

Books and periodicals for review should be sent to the Editor.

Correspondence must be accompanied, as a guarantee of good faith, by the name and address of the writer, not necessarily for publication.

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